

ZeroStat ESD Carpet Installation

Before you go any further remember: An ESD floor isn't installed like standard flooring. At Ground Zero we "do" ESD flooring installs. Any ESD flooring material, thousands of successful installs, great references PLUS certification to the latest EOS ESD guidelines! **Product Overview, Installation Recommendations and Compatible Adhesives**

ZeroStat ESD control carpet tiles provide a electrically conductive pathway from a person to ground allowing static electricity to be discharged without harming sensitive electronics. In high tech environments (such as networked offices and control towers) static can devastate electronics' causing a variety of "glitches" and blown components required for critical applications. Static control is of such importance in electronic assembly environments, that technicians routinely wear static control shoes or foot grounding devices (in combination with the installed flooring) to provide intimate skin to floor contact and the ultimate in static protection. ZeroStat Carpet Tiles are Engineered to also control the electrostatic charge generation of rolling equipment such as carts, chairs, test equipment and transport means of subassemblies or completed product.

At Ground Zero we have a variety of ESD flooring materials, however ESD Carpet tiles provide a crisp modular look, can be removed and replaced (when stained or--> worn) and can be fitted around equipment easier than our X-O Stat ESD Broadloom. In actuality a well installed UP Carpet Tile ESD Floor is superior over many vinyl's and epoxy type floors at eliminating static. When installing remember: Static control flooring is an integral component of the clients production reliability, thus the proper installation is important! Utilizing conductive filaments interwoven with a 100% solution dyed nylon and tufted, dense pattern textured loop, this ESD carpeting provides the utmost in overall performance. Unlike typical "low kV" (standard anti-static carpeting) our conductive filaments are inserted in each yarn end of the basic raw broadloom. This superior manufacturing technology provides a carpeting that never requires chemical anti-stat treatments yet provides exceedingly consistent electrical conductivity across the entire surface of the material.



Utilizing a proprietary process, our raw broadloom is then bonded to a durable, semi conductive, textured, condensed closed cell vinyl backing. After curing, this dimensionally stable backed broadloom is precision cut to specific sizes (either 18" x 18" or 24" x 24" 36" x 36" and boxed to protect the carpet face and corners during shipping. 24" carpet tiles are provided in either boxes of 27 or 18 each, 18" tiles are provided in boxes of 24.

Make sure that the sub-floor and site conditions meet your requirements!

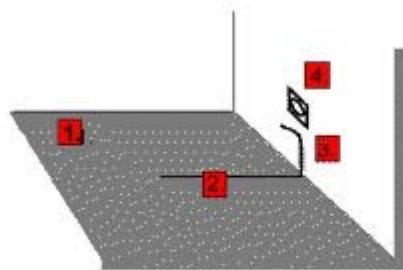
The installation of ZeroStat carpet tiles shouldn't begin until the work of all other trades (especially overhead trades) has been completed. The installation areas must be clean, fully enclosed, weather-tight and have the permanent HVAC system set at a minimum of 68o F (20o C) for a minimum of 72 hours prior to, during and after installation. The ZeroStat Carpet Tiles must be delivered to the installation area and allowed to acclimatize in the same manner. To allow for proper inspection of the substrate, installation of the flooring and final inspection of the install all areas to receive flooring must be adequately lighted. Wood floors should be of double construction with a minimum thickness of 1 inch. The wood floor must be rigid, free from movement and have at least 18" of well ventilated air space below. Typically, ZeroStat carpet tiles shouldn't be installed over wooden sub-floors built on sleepers over, on or below grade concrete floors without special considerations. Contact us if such a install is required.

Our recommended adhesives bond to a variety of substrates!

The subfloor to receive the flooring should be smooth, flat, level, permanently dry, clean and free of all foreign material such as dust, paint, grease, oils, solvents, curing and hardening compounds, sealers, asphalt and old adhesive residue. The concrete must have a minimum compressive strength of 3500 psi. Patch and repair minor cracks and other imperfections with a Portland-base patching compounds. Do not install floor coverings over gypsum-based leveling or patching compounds. It is essential that calcium chloride moisture tests be taken on all concrete floors regardless of the age or grade level. One test should be conducted for every 1000 sq. ft. of flooring (minimum of 3). The test should be conducted around the perimeter of the room, at columns and where moisture may be evident. The moisture emission from the concrete must not exceed 5.0 lbs per 1000 sq/ft. in 24 hours (for our conductive liquid adhesive) and 3.5 lbs per 1000 sq/ft for our textile reinforced releasable adhesive system. A diagram of the area showing the location and results of each test should be submitted to the Architect, General Contractor or End User. If the test results exceed the limitations, the installation must not proceed until the problem has been corrected.

Insure that the received materials meet your criteria!

Prior to installation of this product insure that all floor covering materials and adhesive have arrived on site, that the dye lots, and part numbers match the clients order and that the materials have arrived in undamaged condition. Don't forget; allow the materials to time acclimatize to the temperature controlled environment of the installation area for at least 72 hours prior to beginning the install.

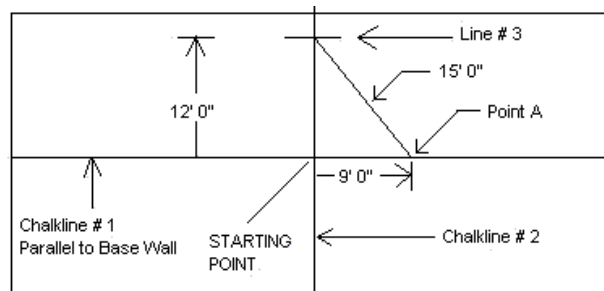


Basic ground for non critical application. 1) cement, 2) copper foil, not hooked to ground in this picture. 3) wall, 4) electrical outlet face plate cover.

The ZeroStat ESD Carpeting is designed to work in conjunction with one of two types of our conductive adhesives (either our Ground Zero Conductive textile reinforced releasable or our GZ 2000 water based liquid adhesive. In the case of a non porous surface such as standard VCT, the liquid adhesive must be applied over our conductive primer (contact us for details when covering non porous surfaces) Adhesives are typically applied over a copper foil ground strip or grid (grounding materials supplied at no charge with your order. The amount of copper foil will vary with the level of protection desired (we group the grounding requirements into

three categories; basic, advanced, critical). For extended information on grounding please visit How to Ground Your ESD Flooring. For "redundant grounding insurance," finished installations can be additionally grounded from the fiber face to a reliable electrical ground via our unique GZ grounding plates (included at no charge with your order).

Installation Layout is similar to a vinyl or VCT tile install. Installation generally starts in the middle of the area and works it's way out from a carefully placed + pattern with edge of carpet tiles being meticulously placed along chalk lines. Keep in mind, our carpet tiles are DIRECTIONAL and well marked with a arrow on the back of each tile. These arrows MUST all point in the same direction!



Our Adhesives bond to the impossible! Curing just takes a little longer!

As mentioned earlier we have two types of conductive adhesives recommended for use with ZeroStat Carpet Tiles. Both adhesives are designed to provide a "equiplane of conductivity" between the insulative substrate and the conductive carpeting. Chances are that your client has previously picked the adhesive when ordering the



ZeroStat Carpet Installation

flooring material. When quoting install cost it's always best to ask about their selection. Following are the advantages and specific nuances of each:

- 1) US 2000 Releasable Adhesive is a textile reinforced, double stick "tape." Available in conductive and standard. Perfect for installing floors in leased facilities (when you move the floor goes with you). Excellent choice for asbestos laden substrates, raised computer floors and fast track usage (requires no curing time to achieve bond). This material is supplied in a 39" x 86' rolls. Designed to cover a variety of surfaces including existing well bonded VCT, Linoleum, Cement, Steel, Hardwood, virtually any surface that is smooth, dust and oil free, well bonded and meets the moisture emission requirements of being below 3.5 lbs per 1000 sf (calcium chloride test). Easy to use, clean, odor free and FAST (saves about 25% in labor over troweled on liquid adhesive).

Releasable Adhesive Application: Grasping inside tube of roll, walk backwards (with light tension on roll), peeling off "run." Align with any adjacent (previous) runs. Note: Although runs can be overlapped it's easiest (for liner removal purposes) to leave a slight 1/16 gap between runs). When comfortable with positioning, lightly broom in place (to remove any excessive bubbles). Remove top liner from sheet, observe carpet lay direction (arrow on carpet tile vinyl backing), place tiles on adhesive surface (starting at inside corner and carefully aligning edges). Note: Do not compress. Upon completion roll in place with 75# Roller. Floor may be used immediately!

Do Not Compress carpet tiles into place! Slight seams may be evident but blend after vacuuming and usage.

- 2) GZ-C2000 Conductive Liquid is a permanent, solvent free, water based, one part conductive adhesive system designed specifically for use with our conductive flooring materials. When properly applied this adhesive has excellent seam strength, and does not require additional seaming adhesive. GZ-C2000 is designed for use on, above or below grade, on unsealed concrete, VCT, Vinyl's, Steel, Mahogany and "sturdy floor type" subflooring (our latex based conductive primer is typically required for non-absorptive substrates). GZ-C2000's Advanced Polymeric Acrylic features the highest conductive filler to bond strength ratio and tolerance to cement moisture emissions in the industry: Warranted to 5.0 lbs per 1000 sf (calcium chloride test).

GZ-C2000 Conductive Liquid Application: Apply using a 1/16" x 1/16" square notched trowel. Allow adhesive to slightly tack, observe carpet lay direction (arrow on vinyl backing), place tiles on adhesive surface (starting at inside corner and carefully sliding into place). After 4 hours, carpet tiles may be rolled using a light weight (<51#) vinyl tile roller. Prior to rolling large area look for adhesive oozing between seams and possibly onto carpet, discontinue rolling for 8 more hours if evident). To avoid shifting of tiles do not allow equipment or other heavy loads to utilize floor for: 72 hours (cement) and 96 hours (primed non absorptive substrates). Clean up trowels and hands with warm soapy water. If adhesive gets on carpeting clean immediately with warm water blotting dry with dry clean towel.

GZ-C2000 FEATURES:

- Water soluble Acrylic Polymer, freeze / thaw stable; @ 5 cycles @ 0 degrees.
- Non flammable, solvent free with little to no odor.
- Moisture resistant, mildew resistant, anti-microbial.
- Working time on non porous subfloors; allow to slightly flash prior to laying material,
- Working time on porous subfloors; lay into wet to slightly tacky adhesive.
- One year shelf life in unopened container.
- Toxics: VOC emissions 0 grams per liter (calculated per CA SCR 1168).
- Resistance: < 1E04.
- Appearance: Gray paste with gray and brown fiber.

After installation: If required, carpeting may be cleaned using standard methods and procedures. Vacuuming is



ZeroStat Carpet Installation

all that is typically needed. When required, a "dry" carpet cleaning method is recommended however wet extraction may be used. Do not use a wet extraction method prior to liquid adhesive achieving full cure (72 to 96 hours) and do not over saturate carpeting when wet cleaning. Do not apply any type of carpet protectant (stain or dirt repellants) as this may change the electrical conductivity of material.

- Dispose installation waste being sure to follow any local and state regulations for the spent materials.
- If your Client requires a Certification of Electrical Conductivity, contact us for details.

Hopefully the electricians and other trades have stayed out of your way during the install. Don't hesitate to give us a call if you have questions, comments or if you run into any snags. We're here to help!